

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT:

(A) NAME: Logemann, Juergen  
(B) STREET: Lavendeltuyn 5  
(C) CITY: NB Leiden  
(E) COUNTRY: The Netherlands  
(F) POSTAL CODE (ZIP): 2317

(A) NAME: Jach, Guido  
(B) STREET: Maternusstrasse 22  
(C) CITY: Koeln  
(E) COUNTRY: Germany  
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(A) NAME: Goernhardt, Birgit  
(B) STREET: Auf dem Knoepp 28  
(C) CITY: Koeln  
(E) COUNTRY: Germany  
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(A) NAME: Mundy, John  
(B) STREET: NY Carlsberg Vej 6, 4th  
(C) CITY: V Copenhagen  
(E) COUNTRY: Denmark  
(F) POSTAL CODE (ZIP): 1760

(A) NAME: Schell, Jeff  
(B) STREET: Carl-von-Linne-Weg 10  
(C) CITY: Koeln  
(E) COUNTRY: Germany  
(F) POSTAL CODE (ZIP): 50829

(A) NAME: Eckes, Peter  
(B) STREET: Am Flachsland 18  
(C) CITY: Kelkheim (Taunus)  
(E) COUNTRY: Germany  
(F) POSTAL CODE (ZIP): 65779

(A) NAME: Chet, Ilan  
(B) STREET: Shikun Ezrachi  
(C) CITY: Nes Ziona  
(E) COUNTRY: Israel  
(F) POSTAL CODE (ZIP): 70400

(ii) TITLE OF INVENTION: Transgenic pathogen-resistant organism

(iii) NUMBER OF SEQUENCES: 12

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Baker & Botts  
(B) STREET: 30 Rockefeller Plaza  
(C) CITY: New York  
(D) STATE: New York  
(E) COUNTRY: U.S.A.  
(F) ZIP: 10112

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: reissue application of U.S. Patent No. 5,804,184  
(B) FILING DATE: herewith

(vii) ATTORNEY/AGENT INFORMATION:

(A) ATTORNEY NAME: Tenser, Arthur  
(B) REGISTRATION NUMBER: 18,839  
(C) AGENT NAME: Kole, Lisa  
(D) REGISTRATION NUMBER: 35,225  
(E) REFERENCE NO: A29542 FWC I- 37/31335

(viii) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (212) 408-2500  
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(C) TELEX: 238555

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 275 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Aspergillus giganteus*

(ix) FEATURE:

(A) NAME/KEY: 5'UTR  
(B) LOCATION: 1..45

(ix) FEATURE:

(A) NAME/KEY: CDS  
(B) LOCATION: 46..225  
(C) IDENTIFICATION METHOD: experimental  
(D) OTHER INFORMATION: /codon\_start= 46  
/function= "antifungal agent"

/product= "antifungal peptide)"  
 /evidence= EXPERIMENTAL  
 /note= "antifungal agent, especially on  
 Rhizoctonia solani, various Aspergillus, Fusaria  
 and Trichophyton species"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

TTGCCACCCC CGTTGAAGCC GATTCTCTCA CCGCTGGTGG TCTGG ATG CAA GAG	54
Met Gln Glu	
1	
ATG AGA GCG CGG GTT TTG GCC ACA TAC AAT GGC AAA TGC TAC AAG AAG	102
Met Arg Ala Arg Val Leu Ala Thr Tyr Asn Gly Lys Cys Tyr Lys Lys	
5 10 15	
GAT AAT ATC TGC AAG TAC AAG GCA CAG AGC GGC AAG ACT GCC ATT TGC	150
Asp Asn Ile Cys Lys Tyr Lys Ala Gln Ser Gly Lys Thr Ala Ile Cys	
20 25 30 35	
AAG TGC TAT GTC AAA AAG TGC CCC CGC GAC GGC GCG AAA TGC GAG TTT	198
Lys Cys Tyr Val Lys Lys Cys Pro Arg Asp Gly Ala Lys Cys Glu Phe	
40 45 50	
GAC AGC TAC AAG GGG AAG TGC TAC TGC TAGACGGTGA GCGAAGGGAC	245
Asp Ser Tyr Lys Gly Lys Cys Tyr Cys	
55 60	
GAAGTAGGCT GGGGGTTATT TTACTCTGCT	275

(3) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 60 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

Met Gln Glu Met Arg Ala Arg Val Leu Ala Thr Tyr Asn Gly Lys Cys	
1 5 10 15	
Tyr Lys Lys Asp Asn Ile Cys Lys Tyr Lys Ala Gln Ser Gly Lys Thr	
20 25 30	
Ala Ile Cys Lys Cys Tyr Val Lys Lys Cys Pro Arg Asp Gly Ala Lys	

35 40 45

Cys Glu Phe Asp Ser Tyr Lys Gly Lys Cys Tyr Cys  
 50 55 60

(4) INFORMATION FOR SEQ ID NO: 3:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 51 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein
- (v) FRAGMENT TYPE: C-terminal
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: *Aspergillus giganteus*
- (ix) FEATURE:
  - (A) NAME/KEY: Protein
  - (B) LOCATION: 1..51
  - (D) OTHER INFORMATION: /note= "active protein fragment of AFP"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

Ala	Thr	Tyr	Asn	Gly	Lys	Cys	Tyr	Lys	Lys	Asp	Asn	Ile	Cys	Lys	Tyr
1				5				10					15		
Lys	Ala	Gln	Ser	Gly	Lys	Thr	Ala	Ile	Cys	Lys	Cys	Tyr	Val	Lys	Lys
			20				25						30		
Cys	Pro	Arg	Asp	Gly	Ala	Lys	Cys	Glu	Phe	Asp	Ser	Tyr	Lys	Gly	Lys
		35				40					45				
Cys	Tyr	Cys													
		50													

(5) INFORMATION FOR SEQ ID NO: 4:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 1032 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Hordeum vulgare*
- (B) STRAIN: L.cv. Piggy

(vii) IMMEDIATE SOURCE:

- (A) LIBRARY: cDNA gene bank in lambda-gt-11-phages

(ix) FEATURE:

- (A) NAME/KEY: 5'UTR
- (B) LOCATION: 1..42

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 43..885
- (D) OTHER INFORMATION: /codon\_start= 43  
/function= "antifungal activity"  
/product= "protein synthesis inhibitor (PSI)"  
/note= "antifungal activity, especially on spores  
of *Trichoderma reesii* and *Fusarium sporotrichoides*  
and on *Rhizoctonia solani*."

(ix) FEATURE:

- (A) NAME/KEY: 3'UTR
- (B) LOCATION: 886..1032
- (D) OTHER INFORMATION: /partial  
/note= "46 nucleotides at the 3'-end not shown."

(ix) FEATURE:

- (A) NAME/KEY: polyA\_signal
- (B) LOCATION: 930..935
- (D) OTHER INFORMATION: /note= "potential polyadenylation  
signal"

(ix) FEATURE:

- (A) NAME/KEY: polyA\_signal
- (B) LOCATION: 963..976
- (D) OTHER INFORMATION: /note= "potential polyadenylation  
signal"

(ix) FEATURE:

- (A) NAME/KEY: polyA\_signal
- (B) LOCATION: 1002..1011
- (D) OTHER INFORMATION: /note= "potential polyadenylation  
signal"

(ix) FEATURE:

- (A) NAME/KEY: mat\_peptide
- (B) LOCATION: 46..886

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

CTTAATAGCA CATCTTGTCC GTCTTAGCTT TGCATTACAT CC ATG GCG GCA AAG